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PREDICTING ORGANIZATIONAL GOALS:
COMPETING VALUES OR CONTINGENCY RELATIONSHIPS?

Contract F01600-85-M-2194

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Paper Submitted to
The Organization and Management Theory Division
of the
National Academy of Management Meetings

August 1987

The research was funded in part by contract 37727N from Frank J. Seiler Research Laboratory and in part by Headquarters United States Air Force Office of Manpower and Organization.

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Abstract

Goal content is defined based on Quinn and Rohrbaugh's (1983) competing values model. Data were gathered from 545 respondents in eight USAF Commands. Findings indicate that goal content can be measured and that contextual variables of environment, technology, and human resources are related to goal emphasis.

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As central as goals are to organizational theory (Simon, 1964) their conceptualization has moved in fits and starts. The literature consists of a small collection of articles and parts of books devoted primarily to isolated facets of the concept of goals. Much of the theoretical work has tried to define goals and how they arise. Most researchers (Etzioni, 1964; Ansoff, 1965; Richards, 1986) agree that goals denote the particular end toward which organizational behavior is directed, but even this simple definition is questioned by Silverman (1970), who maintains that only individuals, not organizations, can have goals or purposes. (SDW)

If one accepts that organizations have goals distinct from what individuals desire for themselves, then many research issues emerge. One issue is whether goals are official or real (Perrow, 1961; Etzioni, 1964). Another is whether goals reflect the aspirations of top management or of some other level in the organizational hierarchy (Simon, 1969; Richards, 1986). Also at issue is whether goals should be prescriptive and objective or descriptive and subjective (Elion, 1971), and if goals work best as open-ended or closed-ended statements (Richards, 1986). The most often studied aspect of organizational goals, however, does not center on what goals are, but focuses on the process through which the organization becomes committed to a course of action.

An interest in the goal setting process has been central to the study of organizational goals since Thompson and McEwan (1958) first challenged classical and economic theories of organizations and their goals. Once goals became variables rather than givens, researchers became interested in how they were determined. Several perspectives describing the goal setting process have been formulated, including a rational approach (Gouldner, 1959) and three political

processes--bargaining (Cyert and March, 1963), problem solving (Simon, 1964), and dominant coalition (Perrow, 1961; Thompson, 1967; Hill, 1969). Each predicts how organizational goals emerge, and each is grounded in its own set of assumptions about the organization and its actors. One of the difficulties associated with political goal setting models is that they exclude the possibility that conditions may vary among organizations or within a single organization over time. Hall (1975) recognized that goal setting is a function of conditions in the decision making environment. She introduced a complex goal setting framework that defined various contingencies under which each of the three political processes would be appropriate.

Hall did not, however, take the next logical step and propose the organizational conditions that affect what goals are selected as well as how they are selected. The preoccupation with understanding goal setting processes has caused researchers to overlook another pertinent aspect of goals--their content. In fact, researchers studying goals have had a difficult time identifying and measuring goal content at all. Nonetheless, as Hall suggested, a complex organization does not possess unlimited goal setting discretion. There exists a bedrock reality in the form of the organization's environment, its technology, and its human resources that impinges on the organization. At any point in time these organizational artifacts constrain and influence not only how choices are made, but also what choices are made.

The purpose of this paper is to explore whether situational variables have a patterned relationship with the content of organizational goals. A model is proposed that defines goal relationships, and hypotheses derived from the model will be tested. Air Force commanders from eight Major Commands were interviewed about organizational goals, environment, technology, and human resources. In

addition, questionnaire scales were developed to measure the four dimensions of Quinn and Rohrbaugh's (1983) competing values model.

Developing the Model: Organizational Goals and Situational Constraints

One aspect of goals that has ceased to cause much debate is the question of whether organizations pursue single or multiple goals. Except for economists, who assume a goal of maximizing shareholder wealth (e.g. Fama and Miller, 1972), and those who define a goal so broadly that it encompasses all other goals (i.e. survival or effectiveness), researchers agree that organizations pursue several goals. A related question is whether organizations attend to multiple goals sequentially (Cyert and March, 1963), through satisficing (Simon, 1948), by an incremental approach (Lindblom, 1959), or simultaneously (Cameron, 1986). The competing values model of organizational effectiveness (Quinn and Rohrbaugh, 1983) offers an alternative explanation of goal pursuit.

The competing values model suggests organizations contain paradoxes. Criteria for evaluating organizational effectiveness are not compatible and congruent, but are in competition with one another. To be successful an organization must seek ends that are simultaneously contradictory. This means, for instance, that an organization can not pursue an efficiency goal to the exclusion of other goals like flexibility or innovation. What distinguishes the competing values model from other theories is the competitive aspect of goals. The theory suggests that organizations will simultaneously pursue at least some minimal level of several goals.

The values competing for attention in the model are recognized as dilemmas in the organizational literature (Aram, 1976). Two of the dilemmas identified by Quinn and Rohrbaugh--flexibility versus stability and internal versus

external focus--provide the basis for defining organizational goal content. Specifically, a truncated version of the competing values model proposes that the following goals can be identified within an organization:

- 1) An Internal Efficiency Goal that combines stability and internal focus and emphasizes the efficient use of scarce resources;
- 2) A Human Relations Goal that combines flexibility and internal focus and emphasizes the personal growth and development of people;
- 3) An Innovation Goal that combines stability and external focus and emphasizes the development, acquisition, or implementation of new materials, ideas, and technologies; and
- 4) A Flexibility/Adaptability Goal that combines flexibility and external focus and emphasizes the ability to change and adapt.

Given that goal content can be specified using the four goal areas in the competing values model, the next step is define organizational characteristics that determine goal content. This assumes that organizational goals do not exist apart from the organization; organizational context and goals are intertwined. Specifically, the environment, technology and human resources of an organization shape the way an organization is designed and the choices it makes (Galbraith 1973; 1977). Several researchers have specified how these three contextual variables might affect goal setting. Relevant contextual variables include environmental stability (Thompson and McEwan, 1958; Etzioni, 1964; Granger, 1964), scarcity of resources (Richards, 1986); technology (Perrow, 1961; Thompson, 1967; Hill, 1969), work flow (Perrow, 1961; Thompson, 1967), training demands (Perrow, 1961), and level of motivation (Cyert and March, 1963). It can be argued that each of these not only affects the goal setting process, but also influences goal content. As Figure 1 illustrates, decisions regarding an organization's goals will not be made independently of the environment in which the organization functions, and the technology and human resource base used to pursue the goals.

Figure 1 about here

The External Environment

The first element in the model links organizational goals with the external environment, and leads to the first hypothesis:

Hypothesis 1: An organization's external environment will be associated with organizational goal content.

Environments influence, constrain and attempt to control organizations (Thompson and McEwan, 1958; Pfeffer and Salancik, 1978). An organization's goals reflect how the organization attempts to adapt to the environment and its realities and to some extent gain control over it. Stable and predictable expectations about the environment allow the organization to routinize operations, secure supplies more easily, and develop organizational slack. The security of a stable environment allows an organization to emphasize coordination and efficiency, and perhaps gives the organization time and resources to focus on employee development. Alternately, environmental complexity and change would lead to quite different goals. If change was unpredictable and rapid, an organization would likely emphasize trying to be flexible so that it could adapt to the changes it was experiencing. There would also be a tendency to stay abreast of technology and processes that were being changed and improved.

Another aspect of the environment that would influence goal content is the relative paucity or abundance of resources available to the organization (Pfeffer and Salancik, 1978). For instance, organizations with abundant resources could devote more of those resources to employee development. Slack

resources also make it easier for an organization to respond to demands in the environment and maintain a structure that is suited for adaptation and flexibility. If resources are scarce, however, the organization must emphasize the efficient use of the resources that are available. These arguments about possible environmental effects on goal content lead to the following hypotheses:

Hypothesis 1a: A stable environment will be positively associated with efficiency goals and human relations goals.

Hypothesis 1b: A stable environment will be negatively associated with flexibility/adaptability goal and innovation goals.

Hypothesis 1c: A munificent environment will be positively associated with human relations goals and adaptability/flexibility goals.

Hypothesis 1d: A munificent environment will be negatively associated with efficiency goals.

Technology

The model also links organizational goals with technology, thus providing the basis for the second major hypothesis:

Hypothesis 2: An organization's technology will be associated with organizational goal content.

Perrow (1961) was among the first to suggest that technology, the tools and techniques by which operations are conducted and the degree of interdependence among operations, would effect organizational goals. Perrow argued that the tasks an organization must perform determine which groups will dominate. Those groups, in turn, influence which goals emerge. Two dimensions of technology

seem particularly likely to affect organizational goal content--the routineness of the technology and the interdependence of the technology (Withey, Daft, and Cooper, 1984). If the technology is routine and easily understood, the organization is likely to seek efficiency goals that take advantage of routinization. On the other hand, if technology is nonroutine, the organization becomes dependent on the employees who interpret and control the technology, and human relations goals and innovation goals are more likely to be adopted.

A similar argument applies to interdependence. When units are highly interdependent and must work closely together, the need for interpersonal skills is greater. Moreover, when technology is complex and the workflow interdependent, innovations are more likely, and the implementation of new and innovative practices becomes easier to coordinate. Alternatively, if work flow is independent, that is, if sections of the organization can work autonomously, efficiency goals can be emphasized. Based on these ideas about technology, the following hypotheses can be drawn:

Hypothesis 2a: Routine technology will be positively associated with efficiency goals.

Hypothesis 2b: Routine technology will be negatively associated with human relations goals and innovation goals.

Hypothesis 2c: Technology based on a sequential workflow will be positively associated with efficiency goals.

Hypothesis 2d: Technology based on reciprocal workflow will be positively associated with human relations goals and/or innovation goals.

Hypothesis 2e: Technology based on an independent workflow will be positively associated with flexibility/adaptability goals.

Human Resources

A third linkage in the model can be found between an organization's human resources and its goal content. Thus:

Hypothesis 3: An organization's human resources will be associated with organizational goal content.

Perrow (1961) believed that human resource factors, like the demands of training new personnel, would influence the goal formation process. Cyert and March's (1963) theory on goal setting also accounted for human resource differences, particularly how subordinate behavior was motivated and guided. These factors can also influence which goals emerge. For instance, if the demands on training are high, that is, training is difficult and must be done frequently, the organization will probably adopt goals that emphasize human resources.

Furthermore, in such instances the organization is likely to hire individuals who can adapt to those demands. Thus, such an organization would be prepared to adopt adaptability/flexibility goals. In addition, high training demand indicates that technology is complex and important to the organization, so innovation may also be emphasized in goal content. However, if training is easy and simple, the organization can pursue efficiency goals, streamline training, and move employees into productive roles quickly.

The final relationship pertains to human motivation. Highly professional employees tend to be motivated by internal factors, and less professional

employees are likely to rely on external motivation. An internally motivated workforce is a valuable resource and central to the success of the organization. To ensure these employees are productive, the organization will pay special attention to developing their potential through human relations goals. Organizations that motivate human resources through externally manipulated criteria treat labor as an input to production, and will tend to emphasize efficiency goals. From these observations about human resources the following hypotheses are drawn:

Hypothesis 3a: High human resource training needs will be positively associated with human relation goals and innovation goals.

Hypothesis 3b: High human resource training needs will be negatively associated with efficiency goals.

Hypothesis 3c: Internal motivation of human resources will be positively associated with human relations goals.

Hypothesis 3d: External motivation of human resources will be positively associated with efficiency goals.

Taken together these hypotheses appear to be rather far-ranging, but as Figure 2 illustrates, they can be arranged using the four goal-content areas of the competing values model to organize them.

Figure 2 about here

Methodology

Sample and Survey Design

Data to test the above hypotheses were collected as part of a larger study of organizational structure in the United States Air Force. Using Air Force units was a unique opportunity because of the diversity found among Air Force Commands. Such variety allowed real differences among contextual variables and goal content to emerge. In all, 12 stateside bases and 7 bases in the European theatre were chosen as sites. This represented 25 Wing, Center, or Division level organizations from eight different Major Commands. Data about organizational goals, environment, technology, and human resources were gathered from each of the sites through interviews and via a questionnaire. Response to the survey was voluntary and confidentiality was assured. A total of 25 senior commanders, 121 deputy commanders and 399 squadron commanders or their equivalents participated in this study.

Respondents from different levels in the organizational hierarchy were chosen to ensure that responses reflected actual organizational conditions rather than circumstances unique to a particular hierarchy level. Reliability tests were conducted to identify which set of respondents were the best informant for the various measures. Squadron commanders emerged as the best informants on training and motivation issues and on the unit's technology. Senior commanders and deputy wing commanders, who have a macro view of the units, were better informants on the state of the environment, resource availability, workflow patterns, and the real goal content of the units. To guarantee an equivalent level of analysis squadron commanders' responses were aggregated to the deputation level.

Measures

The dependent variables--efficiency goals, innovation goals, human relations goals, and flexibility/adaptability goals--have not been measured in previous empirical research. This study developed a twenty-four item instrument from which scales representing these four goal content areas were derived. Respondents were instructed to rank each item like the ones below on a 5-point Likert scale from not important to utmost importance. An example scale item for Human Relations Goals is, "Provide each individual with an opportunity for growth and development." An example for Efficiency Goals is, "Make sure that work is planned in advance to minimize disruptions." Innovation Goals were identified by questions like "Ensure that the unit acquires the latest technology as quickly as possible." An example of Adaptability/Flexibility Goals is "Respond to a crisis or an emergency in an effective manner."

The operationalization of the independent variables--environment, technology, and human resources--was consistent with previous studies (Perrow, 1961; Cyert and March, 1963; Duncan, 1972; Bourgois, 1980). In this study, environment was considered to be elements outside the organization's boundaries. The scale for representing environment certainty was derived from several 5-point Likert items in the questionnaire. Dimensions that were measured include perceptions about the magnitude of change in the environment, the predictability of the environment, the complexity of the environment, and the availability of information and resources in the environment. Technology and the degree of interdependence among operations were measured along three dimensions--task variety, task analyzability, and task interdependence. Human resources, was operationalized by items which tapped training difficulty, training demand, and the prominence of internal or external motivation.

Scale Reliability

Data analysis was conducted in three steps. First, a confirmatory factor analysis was done to assess the appropriateness of the questionnaire. Items from the questionnaire loaded onto the four goal factors and the various independent variables as expected. Cronbach alpha reliability tests were then performed on the items to provide a rationale for building the scales for further statistical analysis. All of the goal scales had reliability scores in excess of $\alpha = .70$ except for the adaptability/flexibility goal scale ($\alpha = .58$). Furthermore, except for the external motivation scale ($\alpha = .51$) and the training demand scale ($\alpha = .40$), all independent variable scales had reliabilities of at least $\alpha = .60$.

Results

The final step of the analysis involved calculating correlations between the contextual variables and the goal content variables. Figure 3 illustrates the results of the Pearson correlation analysis. Eight of the eleven proposed hypotheses were confirmed or partially confirmed by the statistical analysis.

Figure 3 about here

In the Human Relations Goal quadrant, two of the hypotheses--a positive association between a human relations goal and stable environmental conditions and the availability of slack resources--were confirmed. The remainder of the hypotheses in that quadrant were not substantiated. One explanation might be that an organization must have stable environmental conditions and a relative

abundance of resources before the other contextual variables have an association with human relations goals.

Three hypotheses in the Adaptability/Flexibility quadrant--a positive association between adaptability/flexibility goals and slack resources, high training needs, and internal motivation of human resources--were confirmed. Only the environmental hypothesis and the workflow hypothesis were not significantly associated with an emphasis on adaptability and flexibility.

Two hypotheses were confirmed and one partially confirmed in the Efficiency Goal quadrant. Both confirmed hypotheses tapped technological concerns, indicating that an organization's relevant technology might play a prominent role in its decision to emphasize efficiency. The hypothesized relationship between high training needs and efficiency goals was confirmed statistically on one dimension, training demand. The relationship between efficiency goals and the other training dimension, training difficulty, was negative, as hypothesized, but not statistically significant. The remainder of the hypotheses were not confirmed.

Only one relationship hypothesized in the Innovation Goal quadrant was confirmed. Routine technology was negatively and significantly associated with innovation goals on both task analyzability and task variety. The lack of support for the other hypotheses in this quadrant might indicate that technology is an overriding concern for organizations seeking to innovate.

Discussion

The findings of this study make several contribution to the organizational goal literature. One of the empirical findings is that goal content can be defined using Quinn and Rohrbaugh's (1983) competing values model and measured

using a survey questionnaire. In this study Air Force commanders reported that their units pursued the four goals defined by the model, and also that their units did not emphasize all goals equally. An additional finding is that organizational goals were not random, because contextual variables were associated in a patterned way with goal content.

Identifying goal content is not a novel idea, but neither has it been the focus of organizational research. Previous attempts to identify specific goal content areas have either resulted in long checklists of corporate objectives (e.g. Drucker, 1954), or detailed goal criteria that are difficult to operationalize and measure (Perrow, 1961). The lack of progress in the area of goal content might have stimulated the interest in goal setting "process" that has dominated the literature since the early sixties. Relying on the competing values model to define goal content overcomes some of the weaknesses of the checklist approach or Perrow's approach. Besides the advantage of having measurable constructs, the model shows how tensions from several directions are pulling at the organization. In response to these tensions, organizations change, as do their goals.

Perhaps the major contribution of this research is the recognition that goal content is partially predictable. The environment, the technology, and the human resources of an organization provide a concrete reality within which the organization must operate, and it is possible to demonstrate that there are variables associated with organizational goals. This does not imply that the study of goal setting processes in organizations is no longer salient, only that researchers recognize that these processes do not have unlimited discretion. The composition of an organization's environment, its technology, and its human resources influences which goals will be emphasized and which will remain secondary.

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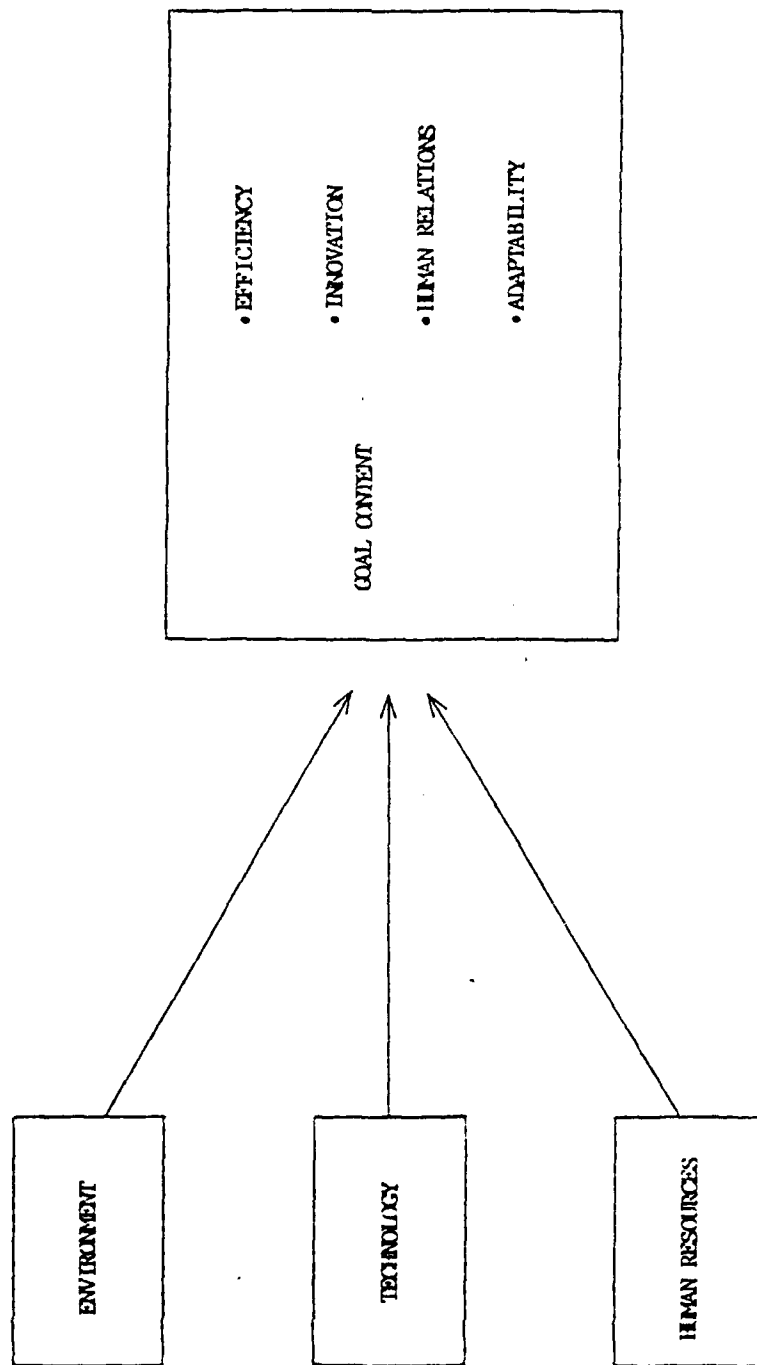
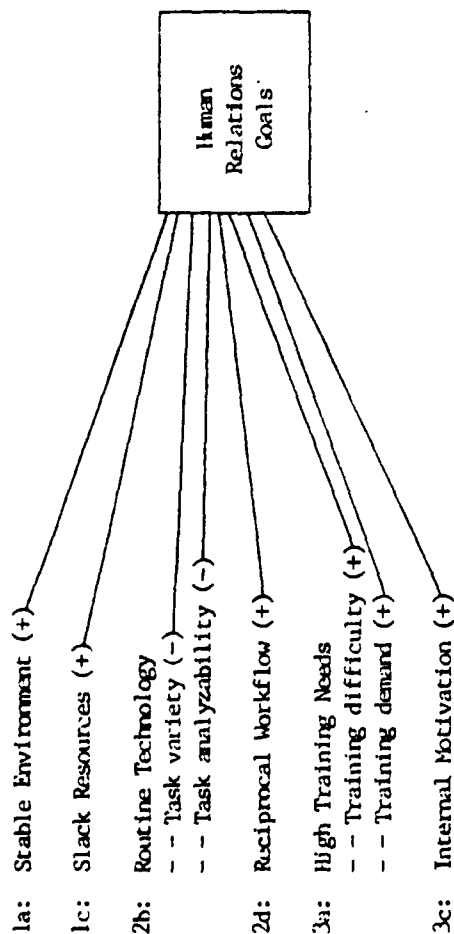


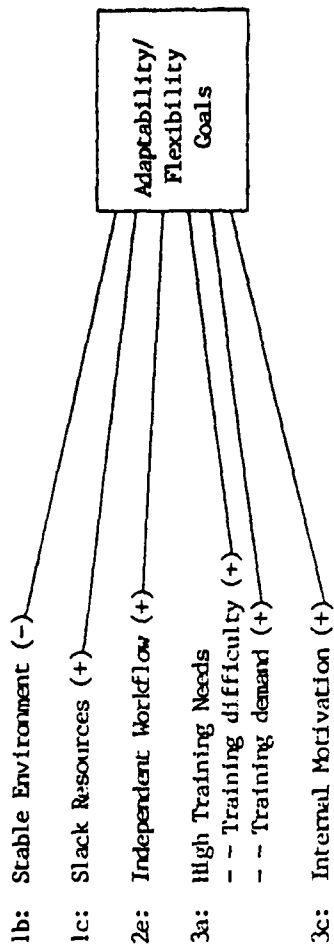
Figure 1. A General Model of Situational Influences on Goal Content.

HUMAN RELATIONS MODEL

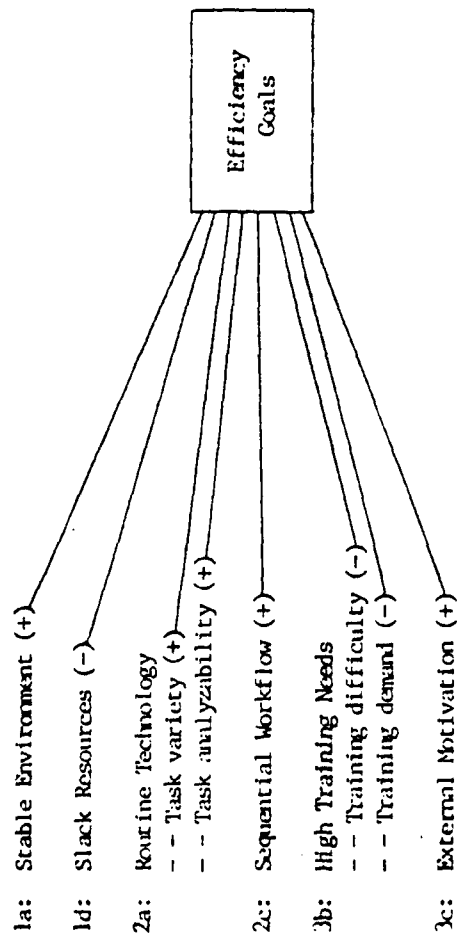
Flexibility



OPEN SYSTEMS MODEL

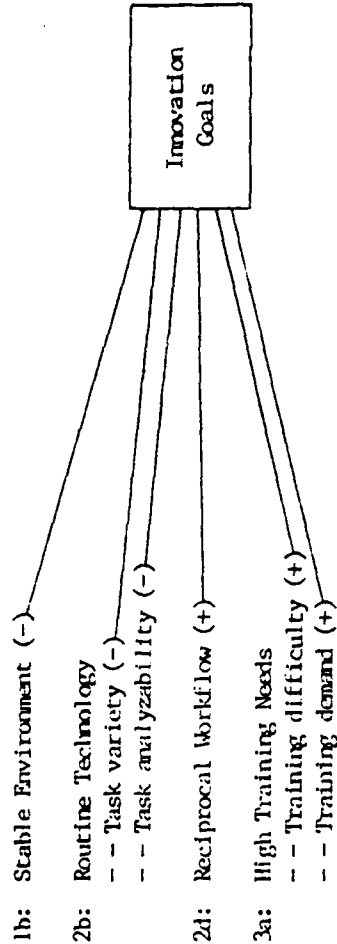


Internal



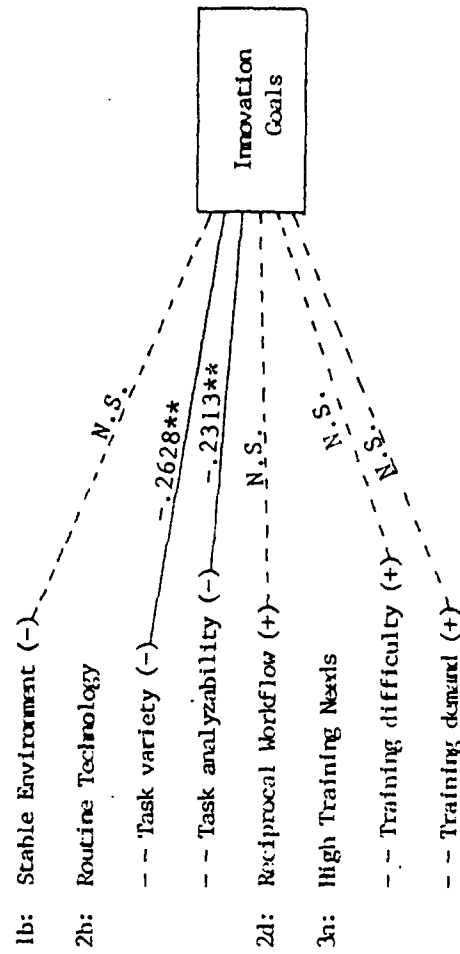
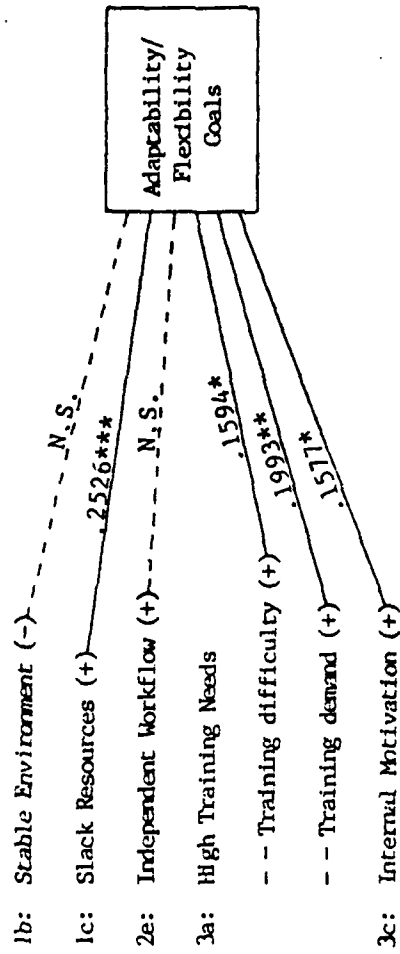
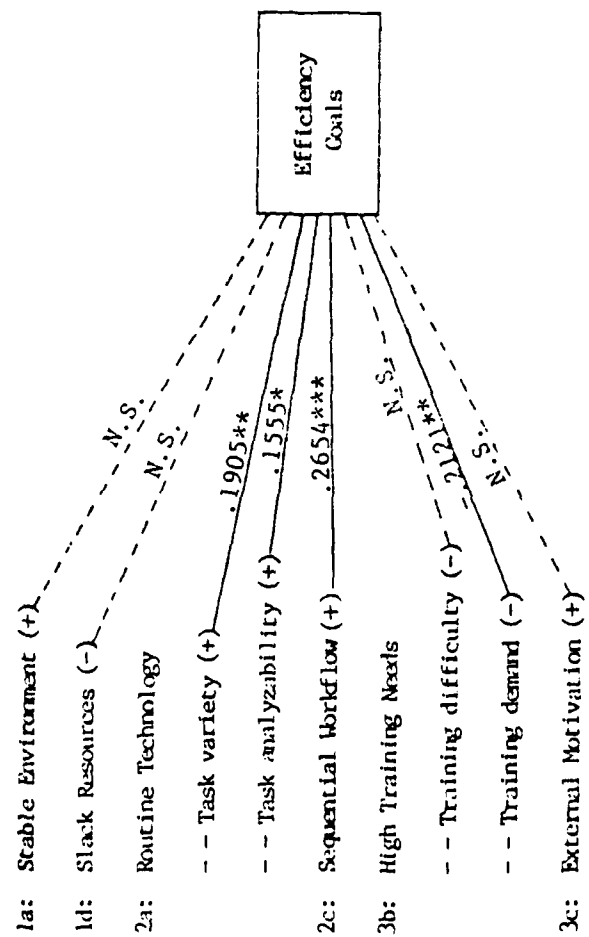
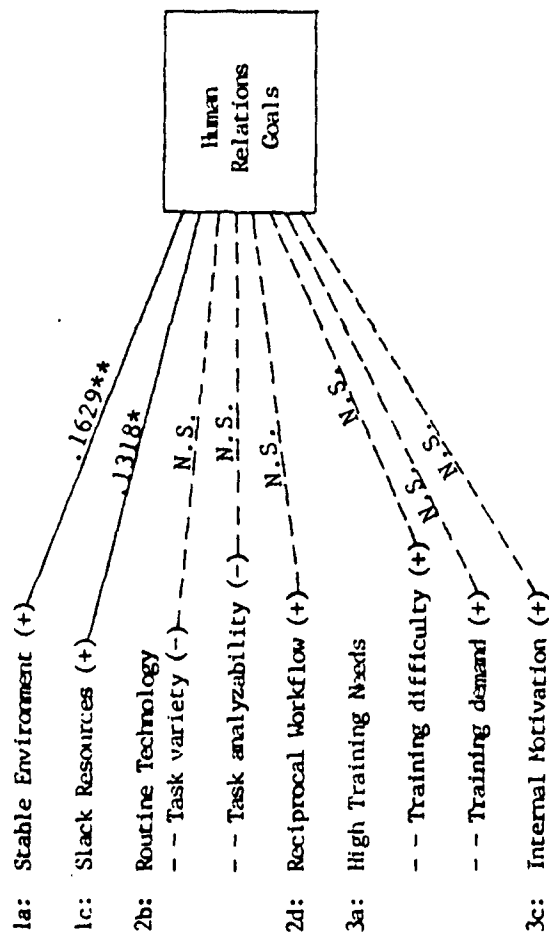
INTERNAL PROCESS MODEL

External



RATIONAL GOAL MODEL

Figure 2. Hypotheses Overlaid on the Competing Values Model.



N.S. = Not Significant
 * = $p < .10$
 ** = $p < .05$
 *** = $p < .005$

Figure 3. Test of Hypotheses: Pearson Correlation Coefficients.